Hemodynamic Response to Intubation with the Airway Scope vs. the Macintosh Laryngoscope

*Response was less with the Airway Scope in normotensive patients, but no difference was noted in hypertensive patients.*

To compare hemodynamic response to intubation with the Airway Scope (a video laryngoscope) and with the Macintosh laryngoscope, researchers in Japan randomized 46 normotensive patients and 46 patients with chronic hypertension (on antihypertensive medications) to intubation by a single anesthesiologist with one of the two devices. Patients with predictors of difficult intubation (see the table) and those who were undergoing thoracic or cardiovascular surgery were excluded.

Normotensive was defined as average systolic blood pressure (SBP) <149 mm Hg on three measurements at admission, and hypertensive was defined as average SBP >150 mm Hg. BP and heart rate were measured before initiation of elective general anesthesia (baseline); immediately before intubation; immediately after intubation; and 1, 2, 3, 4, and 5 minutes after intubation.

Baseline patient characteristics were similar among groups, except for SBP (mean, about 170 and 180 mm Hg in the hypertensive Macintosh and Airway Scope groups, respectively, vs. 120 and 130 mm Hg in the normotensive Macintosh and Airway Scope groups, respectively). All intubations were successful on the first attempt. Among normotensive patients, those in the Macintosh group experienced significantly greater BP increases immediately after intubation than those in the Airway Scope group (approximately 75% vs. 35%). Significant but smaller differences were seen in BP and heart rate 1 and 2 minutes after intubation. Among hypertensive patients, no hemodynamic differences were noted in any comparisons.

**Comment:** Hemodynamic response during intubation is related to the duration and degree of manipulation of upper airway tissues. For patients in whom intubation-induced hypertension might be detrimental, providers should consider pretreatment with an opioid or β-blocker and use of a video laryngoscope rather than a direct laryngoscope to minimize upper airway stimulation.

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